

12. (Unamended) A method according to claim 11, wherein the slice line and the guide line each comprises an electrode line, which constitutes a semiconductor element formed on the substrate.

#### REMARKS

Applicant requests favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.

Claims 1, 3, 4 and 6-12 are presented for consideration. Claims 1, 4, 7 and 11 are independent. Claims 1, 4, 7 and 11 have been amended to clarify features of the invention. Support for these changes can be found in the original application as filed. Therefore, no new matter has been added.

Applicant requests favorable reconsideration and withdrawal of the rejections set forth in the above-noted Office Action.

Claims 1, 3, 4, and 6 through 12 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The Examiner objects to the specific phrase "like a plane" at line 3 in Claims 1, 4, 7 and 11. With regard to the claims as amended by this amendment, this rejection is respectfully traversed.

As amended, the phrase "adjacently arranging like a plane a plurality of substrates" has been changed to "adjacently arranging a plurality of substrates on substantially a same plane" to recite more clearly the arrangement of substrates as shown at least in Fig. 5. The

revised recitation is supported by the disclosure at least at lines 14-19 of page 7 in the specification with respect to Fig. 5. Claims 4, 7 and 11 have been similarly amended.

In view of the foregoing, it is believed that Claims 1, 3, 4 and 6-12 as amended fully meet the requirements of 35 U.S.C. § 112, second paragraph.

Claims 1, 3, 4, and 6 through 12 have been rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 3,398,620 to Gautron. With regard to the claims as amended by this amendment, this rejection is respectfully traversed.

Independent Claim 1 as amended by this amendment is directed to a method of cutting a substrate of a thin film semiconductor device constructed by adjacently arranging plural substrates on substantially the same plane. On each substrate, two dimensionally arranged thin film semiconductor elements are installed. According to the method, a substrate is cut that has a slice line on a side of the substrate to be adjacent another substrate and a guide line on the substrate which corresponds to the slice line and is different from the slice line. The position of the guide line is detected and the cutting position is corrected while the substrate is cut along the slice line.

Independent Claim 4 as amended by this amendment is directed to a method of cutting a substrate of a thin film semiconductor device constructed by adjacently arranging plural substrates on substantially the same plane. On each substrate, two dimensionally arranged thin film semiconductor elements are installed. According to the method, a substrate is cut that has a slice line on a side of the substrate to be adjacent another substrate and a guide line on the substrate which corresponds to the slice line and is different from the slice line. The position of

the guide line is detected and the cutting position is corrected while the substrate is cut along the slice line. The guide line is an electrode line provided on the substrate.

Independent Claim 7 as amended by this amendment is directed a method of cutting a substrate of a thin film semiconductor device constructed by adjacently arranging plural substrates on substantially the same plane. On each substrate, two dimensionally arranged thin film semiconductor elements are installed. According to the method, a substrate having an electrode layer thereon is cut. A position of a guide line provided corresponding to a slice line formed by the electrode layer on a side of the substrate to be adjacent another substrate is detected during the cutting. The cutting position is corrected based on the detection.

Independent Claim 11 as amended by this amendment is directed to a method of cutting a substrate of a thin film semiconductor device constructed by adjacently arranging plural substrates on substantially the same plane. On each substrate, two dimensionally arranged thin film semiconductor elements are installed. According to the method, a substrate is cut that is provided with a slice line on a side of the substrate to be adjacent another substrate and a guide line along the slice line of the substrate. The guide line is detected during the cutting to detect deviation with respect to the guide line and the cutting position is corrected based on the detected deviation.

In Applicants' view, Gautron discloses apparatus for cutting sheet material which has pivotally mounted shears that cut the sheet material and a unit that moves the sheet material relative to the shears. The sheet material is loosely guided with respect to the sheers and a unit responsive to angular variations of the sheet material adjusts the angle of the sheers.

According to the invention defined in Claims 1, 4, 7 and 11 as amended by this amendment, plural substrates are arranged adjacently on substantially the same plane. A substrate having a slice line on a side to be adjacent another substrate and a guide line corresponding to or identical with the slice line is cut. The guide line position is detected to correct the cutting position while the substrate is cut along the slice line. Advantageously, the cutting of a slice line is precision controlled by a guide line only on a side where the substrate is to be adjacent another substrate so that the gap therebetween is accurately controlled and the time for cutting the substrate sides not adjacent another substrate where the gap need not be controlled can be shortened.

Gautron may teach controlling cutting of a sheet of steel along a line of cut controlled by means of a guiding wire 13. The Gautron disclosure, however, only relates to cutting of individual steel sheets and is unrelated and directed away from control of cutting slice lines in items such as substrates to be adjacently arranged and bonded where the gap between adjacent substrates must be minimized as in the present invention. In particular, Gautron is devoid of any suggestion of the feature of Claims 1, 4, 7 and 11 of a cutting plural substrates that are to be arranged adjacently on substantially the same plane combined with the feature of controlling cutting of slice lines on each side of a substrate that is to be adjacent another substrate by correcting cutting responsive to detection of a corresponding guide line on the substrate so that the gaps between adjacent substrates on the plane are controlled and the time for cutting of sides not adjacent other substrates is substantially shortened. As a result, it is not seen that Gautron could possibly teach or suggest guide line control to correct slice line cutting for

substrates adjacently arranged on a plane as in Claims 1, 4, 7 and 11. It is therefore believed that Claims 1, 4, 7 and 11 as amended by this amendment are completely distinguished from Gautron and are allowable.

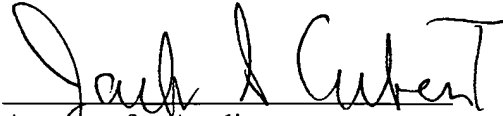
A review of the other art of record has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as references against the independent claims herein. Those claims are therefore believed patentable over the art of record. Applicants submit that the amendments to independent Claims 1, 4, 7 and 11 clarify Applicants' invention and serve to reduce any issues for appeal.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable consideration and reconsideration and early passage to issue of the present application. The Examiner is respectfully requested to enter this Amendment After Final Action under 37 C.F.R. § 1.116.

Applicants' attorney, Steven E. Warner, may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Jack S. Cubert", written over a horizontal line.

Attorney for Applicant

Jack S. Cubert

Registration No. 24,245

FITZPATRICK, CELLA, HARPER & SCINTO  
30 Rockefeller Plaza  
New York, New York 10112-3801  
Facsimile: (212) 218-2200

JSC/lmj

APPENDIX A

IN THE CLAIMS:

1. (Three Times Amended) A substrate cutting method for cutting a substrate of a thin film semiconductor device constructed by adjacently arranging [like a plane] a plurality of substrates on substantially a same plane, on each of [which] the substrates, two dimensionally arranged thin film semiconductor elements [which are two-dimensionally arranged] are installed comprising the steps of:

cutting a substrate having a slice line provided on a side of the substrate to be adjacent another substrate and a guide line provided on the substrate, which corresponds to the slice line and is different from the slice line; and

detecting a position of the guide line and correcting a cutting position while the substrate is cut along the slice line.

4. (Three Times Amended) A substrate cutting method for cutting a substrate of a thin film semiconductor device constructed by adjacently arranging [like a plane] a plurality of substrates on substantially a same plane, on each of [which] the substrates, two-dimensionally arranged thin film semiconductor elements [which are two-dimensionally arranged] are installed comprising the steps of:

cutting a substrate having a slice line provided on a side of the substrate to be adjacent another substrate and a guide line provided on the substrate, which corresponds to the slice line and is different from the slice line; and

detecting a position of the guide line and correcting a cutting position while the substrate is cut along the slice line,

wherein the guide line is an electrode line provided on the substrate.

7. (Three Times Amended) A substrate cutting method for cutting a substrate of a thin film semiconductor device constructed by adjacently arranging [like a plane] a plurality of substrates substantially a same plane, on each of [which] of the substrates, two-dimensionally arranged thin film semiconductor elements [which are two-dimensionally arranged] are installed comprising the steps of:

cutting a substrate having an electrode layer provided on the substrate;

detecting, during the cutting, a position of a guide line provided corresponding to a slice line formed by the electrode layer on a side of the substrate to be adjacent another substrate; and

correcting a cutting position based on the detection in said detecting step.

11. (Three Times Amended) A substrate cutting method for cutting a substrate of a thin film semiconductor device constructed by adjacently arranging [like a plane] a plurality of substrates on substantially a same plane, on each of [which] the substrates, two-dimensionally



arranged thin film semiconductor elements [which are two-dimensionally arranged] are installed comprising the steps of:

cutting a substrate, provided with a slice line on a side of the substrate to be adjacent another substrate and a guide line, along the slice line of the substrate;

detecting the guide line during the cutting to detect deviation with respect to the guide line; and

correcting a cutting position based on the detected deviation.